

District I
1625 N. French Dr., Hobbs, NM 88240

District II
811 S. First St., Artesia, NM 88210

District III
1000 Rio Brazos Rd., Aztec, NM 87410

District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

DEC 12 2018

Revised August 1, 2011

Submit one copy to appropriate District Office

RECEIVED

☐ AMENDED REPORT

I. REQUEST FOR ALLOWABLE AND AUTHORIZATION TO TRANSPORT

¹ Operator name and Address COG Operating LLC 2208 W. Main Street Artesia, NM 88210		² OGRID Number 229137
		³ Reason for Filing Code/ Effective Date NW
⁴ API Number 30 - 015-44993	⁵ Pool Name Cottonwood Draw; Bone Spring	⁶ Pool Code 97494
⁷ Property Code 316775	⁸ Property Name Road Runner Federal Com	⁹ Well Number 13Y

II. ¹⁰ Surface Location

Ul or lot no. N	Section 25	Township 25S	Range 26E	Lot Idn	Feet from the 180	North/South Line South	Feet from the 2025	East/West line West	County Eddy
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¹¹ Bottom Hole Location

Ul or lot no. C	Section 24	Township 25S	Range 26E	Lot Idn	Feet from the 215221	North/South Line North	Feet from the 1865	East/West line West	County Eddy
¹² Lse Code S	¹³ Producing Method Code F	¹⁴ Gas Connection Date 9/24/18	¹⁵ C-129 Permit Number	¹⁶ C-129 Effective Date	¹⁷ C-129 Expiration Date				

III. Oil and Gas Transporters

¹⁸ Transporter OGRID	¹⁹ Transporter Name and Address	²⁰ O/G/W
	ACC	O
	Lucid Energy	G

IV. Well Completion Data

²¹ Spud Date 6/7/18	²² Ready Date 9/24/18	²³ TD 17664' / 7766'	²⁴ PBDT 17555'	²⁵ Perforations 7880-17530'	²⁶ DHC, MC
²⁷ Hole Size	²⁸ Casing & Tubing Size	²⁹ Depth Set	³⁰ Sacks Cement		
17 1/2"	13 3/8"	250'	350 - cur		
12 1/4"	9 5/8"	2399'	1050 - cur		
8 3/4"	5 1/2"	17664'	3555 - cur		
	2 7/8"	7118'			

V. Well Test Data

³¹ Date New Oil 9/24/18	³² Gas Delivery Date 9/24/18	³³ Test Date 9/25/18	³⁴ Test Length 24 Hrs	³⁵ Tbg. Pressure 675#	³⁶ Csg. Pressure 475#
³⁷ Choke Size 34/64	³⁸ Oil 656	³⁹ Water 2661	⁴⁰ Gas 2073		⁴¹ Test Method Flowing

⁴² I hereby certify that the rules of the Oil Conservation Division have been complied with and that the information given above is true and complete to the best of my knowledge and belief.

Signature: Amanda Avery

Printed name:
Amanda Avery

Title:
Regulatory Tech II

E-mail Address:
aavery@concho.com

Date:
12/5/18

Phone:
575-748-6962

OIL CONSERVATION DIVISION

Approved by:

Rusty Klein
Business Ops Spec A

Title:

Approval Date:

12-18-2018

Pending BLM approvals will subsequently be reviewed and scanned

NM OIL CONSERVATION

ARTESIA DISTRICT

DEC 12 2018

Form 3160-4
(August 2007)UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM APPROVED
OMB No. 1004-0137
Expires: July 31, 2010

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

RECEIVED

5. Lease Serial No.
NMNM112907

6. If Indian, Allottee or Tribe Name

7. Unit or CA Agreement Name and No.

8. Lease Name and Well No.
ROADRUNNER FEDERAL COM 13Y

9. API Well No.
30-015-44993

10. Field and Pool, or Exploratory
COTTONWOOD DRAW; BS

11. Sec., T., R., M., or Block and Survey
or Area Sec 25 T25S R26E Mer NMP

12. County or Parish
EDDY

13. State
NM

17. Elevations (DF, KB, RT, GL)*

18. Total Depth: MD 17664
TVD 7747

19. Plug Back T.D.: MD 17555
TVD 7747

20. Depth Bridge Plug Set: MD 17664
TVD 7747

21. Type Electric & Other Mechanical Logs Run (Submit copy of each)

22. Was well cored? ☒ No ☐ Yes (Submit analysis)
Was DST run? ☒ No ☐ Yes (Submit analysis)
Directional Survey? ☐ No ☒ Yes (Submit analysis)

1a. Type of Well ☒ Oil Well ☐ Gas Well ☐ Dry ☐ Other

b. Type of Completion ☒ New Well ☐ Work Over ☐ Deepen ☐ Plug Back ☐ Diff. Resvr.
Other

2. Name of Operator
COG OPERATING LLC

Contact: AMANDA AVERY
E-Mail: aavery@concho.com

3. Address 2208 W MAIN STREET
ARTESIA, NM 88210

3a. Phone No. (include area code)
Ph: 575-748-6940

4. Location of Well (Report location clearly and in accordance with Federal requirements)*
Sec 25 T25S R26E Mer NMP
At surface SESW Lot N 180FSL 2025FWL 32.094042 N Lat, 104.248573 W Lon
Sec 25 T25S R26E Mer NMP
At top prod interval reported below SESW Lot N 180FSL 2025FWL 32.094042 N Lat, 104.248573 W Lon
Sec 24 T25S R26E Mer NMP
At total depth Lot C 32.122065 N Lat, 104.248924 W Lon

14. Date Spudded
06/07/2018

15. Date T.D. Reached
06/22/2018

16. Date Completed
☐ D & A ☒ Ready to Prod.
09/24/2018

18. Total Depth: MD 17664
TVD 7747

19. Plug Back T.D.: MD 17555
TVD 7747

20. Depth Bridge Plug Set: MD 17664
TVD 7747

21. Type Electric & Other Mechanical Logs Run (Submit copy of each)

22. Was well cored? ☒ No ☐ Yes (Submit analysis)
Was DST run? ☒ No ☐ Yes (Submit analysis)
Directional Survey? ☐ No ☒ Yes (Submit analysis)

23. Casing and Liner Record (Report all strings set in well)

Hole Size	Size/Grade	Wt. (#/ft.)	Top (MD)	Bottom (MD)	Stage Cementer Depth	No. of Sk. & Type of Cement	Slurry Vol. (BBL)	Cement Top*	Amount Pulled
17.500	13.375 J55	54.5	0	250		350		0	
12.250	9.625 J55	40.0	0	2399		1050		0	
8.750	5.500 P110	17.0	0	17664		3555		0	

24. Tubing Record

Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)
2.875	7118	7885						

25. Producing Intervals

Formation	Top	Bottom	Perforated Interval	Size	No. Holes	Perf. Status
A) BONE SPRING	7880	17530	7880 TO 17530		1620	
B)						
C)						
D)						

27. Acid, Fracture, Treatment, Cement Squeeze, Etc.

Depth Interval	Amount and Type of Material
7880 TO 17530	SEE ATTACHED

28. Production - Interval A

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
09/24/2018	09/25/2018	24	→	656.0	2073.0	2661.0			GAS LIFT
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
34/64	675	475.0	→	656	2073	2661		POW	

28a. Production - Interval B

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
			→						

(See Instructions and spaces for additional data on reverse side)

ELECTRONIC SUBMISSION #446563 VERIFIED BY THE BLM WELL INFORMATION SYS
** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED *Pending BLM approvals will
subsequently be reviewed
and scanned

28b. Production - Interval C

Date First Produced	Test Date	Hours Tested	Test Production →	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate →	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	

28c. Production - Interval D

Date First Produced	Test Date	Hours Tested	Test Production →	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate →	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	

29. Disposition of Gas(Sold, used for fuel, vented, etc.)
SOLD

30. Summary of Porous Zones (Include Aquifers):

Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.

31. Formation (Log) Markers

Formation	Top	Bottom	Descriptions, Contents, etc.	Name	Top
					Meas. Depth
TOS	311			TOS	311
BOS	1726			BOS	1726
LMAR	1922			LMAR	1922
BLCN	1966			BLCN	1966
CYCN	2817			CYCN	2817
BYCN	3904			BYCN	3904
FBSG	6428			FBSG	6428
SBSG	6950			SBSG	6950

32. Additional remarks (include plugging procedure):

33. Circle enclosed attachments:

- | | | | |
|---|--------------------|---------------|-----------------------|
| 1. Electrical/Mechanical Logs (1 full set req'd.) | 2. Geologic Report | 3. DST Report | 4. Directional Survey |
| 5. Sundry Notice for plugging and cement verification | 6. Core Analysis | 7. Other: | |

34. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records (see attached instructions):

Electronic Submission #446563 Verified by the BLM Well Information System.
For COG OPERATING LLC, sent to the Carlsbad

Name (please print) AMANDA AVERYTitle AUTHORIZED REPRESENTATIVE

Signature _____ (Electronic Submission)

Date 12/05/2018

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

**** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ****

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM APPROVED
OMB NO. 1004-0137
Expires: January 31, 2018**SUNDRY NOTICES AND REPORTS ON WELLS**
*Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.*5. Lease Serial No.
NMNM112907

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.

SUBMIT IN TRIPLICATE - Other instructions on page 28. Well Name and No.
ROADRUNNER FEDERAL COM 13Y9. API Well No.
30-015-4499310. Field and Pool or Exploratory Area
COTTONWOOD DRAW; BS

11. County or Parish, State

EDDY COUNTY, NM

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION				
<input type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off	
<input checked="" type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Hydraulic Fracturing	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity	
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input checked="" type="checkbox"/> Other	
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	Hydraulic Fracture	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal		

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.

7/13/18 Set composite bridge plug @ 17555' and test csg to 8540# for 30 mins. Good test.

7/31/18 to 8/15/18 Perf and plug 7880-17530' (1620). Acdz w/86,184 gal 7 1/2%; frac w/19,524,540# sand & 16,238,023 gal fluid.

8/21/18 to 8/24/18 Drilled out composite frac plug's. Clean down to CBP @ 17,555'.

8/25/18 Set 2 7/8" 6.5# J-55 tbg @ 7118' & pkr @ 7108'. Installed gas-lift system.

9/24/18 Began flowing back & testing. Date of first production

NM OIL CONSERVATION
ARTESIA DISTRICT

DEC 12 2018

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14. I hereby certify that the foregoing is true and correct.

**Electronic Submission #446528 verified by the BLM Well Information System
For COG OPERATING LLC, sent to the Carlsbad**Name (Printed/Typed) **AMANDA AVERY**Title **AUTHORIZED REPRESENTATIVE**

Signature (Electronic Submission)

Date **12/05/2018****THIS SPACE FOR FEDERAL OR STATE OFFICE USE**

Approved By

Title

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Office

Pending BLM approvals will
subsequently be reviewed
and scanned

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly at-
tacking any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction

any department or agency of the United

(Instructions on page 2)

**** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ****

ROAD RUNNER FEDERAL COM #13Y (30-015-44993)

<u>Perfs</u>	<u>7 1/2% Acid (Gal)</u>	<u>Sand (#)</u>	<u>Fluid (Gal)</u>
1	1512	362690	312354
2	1512	359930	305424
3	1512	360200	325836
4	1512	361470	308855
5	1512	360000	308196
6	1512	362500	310422
7	1512	360300	315924
8	1512	360020	303521
9	1512	361040	303198
10	1512	360830	306755
11	1512	361010	343379
12	1512	359980	304626
13	1512	359800	300174
14	1512	359910	304571
15	1512	359810	303156
16	1512	360210	303857
17	3024	359940	303030
18	1512	360730	302064
19	1512	360220	299544
20	1512	361230	324366
21	1512	360160	299082
22	1512	360390	298985
23	1512	360140	299544
24	1512	360190	303156
25	1512	360040	297150
26	1512	360630	298368
27	1512	362010	298830
28	1512	360100	315168
29	1512	360270	300132
30	1512	360060	296310
31	1512	360720	291060
32	1512	360420	293832
33	1512	360310	299880
34	1512	359750	300384
35	1512	360240	292194
36	1512	360030	296898
37	3024	360290	296730
38	3024	360010	291690
39	1512	360850	291186
40	1512	361060	294588
41	1512	360060	293328
42	1512	362260	294042
43	1512	360190	292614
44	1512	360400	287994
45	1512	360780	296058
46	1512	362310	294336
47	1512	360430	289464
48	1512	360190	288750
49	1512	360720	288246
50	1512	360360	289464
51	1512	360250	288498
52	1512	366760	288359
53	1512	362480	290430
54	1512	407860	312018
Totals	86,184	19,524,540	16,238,023

From Bottom to Top	Stage 1	Distance Between Perfs	Shots	Stage 2	Distance Between Perfs	Shots	Stage 3	Distance Between Perfs	Shots	Stage 4	Distance Between Perfs	Shots	Stage 5	Distance Between Perfs	Shots
	17,530	22	4	17,341	32	4	17,172	22	4	16,993	22	4	16,809	27	4
	17,508	23	4	17,323	17	4	17,150	23	4	16,970	22	4	16,791	19	4
	17,485	22	4	17,306	22	4	17,127	27	4	16,948	23	4	16,772	26	4
	17,463	23	4	17,284	23	4	17,100	18	4	16,925	22	4	16,746	22	4
	17,440	22	4	17,261	22	4	17,082		4	16,903	22	4	16,724	22	4
	17,418	22	4	17,239	22	4	17,055	18	4	16,881	19	4	16,702	23	4
	17,396	23	3	17,217	23	3	17,037	22	3	16,862	26	3	16,679	17	3
	17,373		3	17,194		3	17,015		3	16,836		3	16,662		3
	Plug to Plug	92	30	Plug to Plug	68	30	Plug to Plug	83	30	Plug to Plug	79	30	Plug to Plug	79	30
Frac Plug		17,555	Total Shots	Frac Plug	17,352	Total Shots	Frac Plug	17,183	Total Shots	Frac Plug	17,004	Total Shots	Frac Plug	16,825	Total Shots

From Bottom to Top	Stage 6	Distance Between Perfs	Shots	Stage 7	Distance Between Perfs	Shots	Stage 8	Distance Between Perfs	Shots	Stage 9	Distance Between Perfs	Shots	Stage 10	Distance Between Perfs	Shots
	16,634	28	4	16,455	23	4	16,262	37	4	16,099	20	4	15,893	47	4
	16,612	22	4	16,433	28	4	16,251	20	4	16,075	28	4	15,885	12	4
	16,590	23	4	16,405	17	4	16,231	25	4	16,047	17	4	15,873	22	4
	16,567	22	4	16,388	22	4	16,206	19	4	16,030	23	4	15,851	23	4
	16,545	23	4	16,366	23	4	16,187	23	4	16,007	22	4	15,828	21	4
	16,522	22	4	16,343	22	4	16,164	22	4	15,985	20	4	15,807	23	4
	16,500	22	3	16,321	22	3	16,142	23	3	15,965	25	3	15,784	26	3
	16,478		3	16,299		3	16,119		3	15,940		3	15,758		3
	Plug to Plug	79	30	Plug to Plug	78	30	Plug to Plug	66	30	Plug to Plug	78	30	Plug to Plug	52	30
Frac Plug		16,646	Total Shots	Frac Plug	16,466	Total Shots	Frac Plug	16,272	Total Shots	Frac Plug	16,108	Total Shots	Frac Plug	15,903	Total Shots

From Bottom to Top	Stage 11	Distance Between Perfs	Shots	Stage 12	Distance Between Perfs	Shots	Stage 13	Distance Between Perfs	Shots	Stage 14	Distance Between Perfs	Shots	Stage 15	Distance Between Perfs	Shots
	15,739	19	4	15,560	22	4	15,381	28	4	15,201	23	4	15,018	27	4
	15,716	22	4	15,537	22	4	15,353	17	4	15,179	22	4	15,000	22	4
	15,694	22	4	15,515	22	4	15,336	25	4	15,157	23	4	14,978	23	4
	15,672	21	4	15,493	23	4	15,311	20	4	15,134	19	4	14,955	22	4
	15,651	24	4	15,470	18	4	15,291	22	4	15,115	26	4	14,933	23	4
	15,627	23	4	15,452	27	4	15,269	23	4	15,089	18	4	14,910	22	4
	15,604	22	3	15,425	16	3	15,246	22	3	15,071	26	3	14,888	22	3
	15,582		3	15,409		3	15,224		3	15,045		3	14,866		3
	Plug to Plug	78	30	Plug to Plug	78	30	Plug to Plug	81	30	Plug to Plug	79	30	Plug to Plug	79	30
Frac Plug		15,750	Total Shots	Frac Plug	15,571	Total Shots	Frac Plug	15,392	Total Shots	Frac Plug	15,213	Total Shots	Frac Plug	15,034	Total Shots

From Bottom to Top	Stage 16	Distance Between Perfs	Shots	Stage 17	Distance Between Perfs	Shots	Stage 18	Distance Between Perfs	Shots	Stage 19	Distance Between Perfs	Shots	Stage 20	Distance Between Perfs	Shots
	14,843	23	4	14,658	28	4	14,485	22	4	14,303	27	4	14,127	22	4
	14,821	23	4	14,636	17	4	14,463	25	4	14,284	23	4	14,104	19	4
	14,798	22	4	14,619	24	4	14,438	20	4	14,261	24	4	14,085	25	4
	14,776	28	4	14,595	20	4	14,418	23	4	14,237	21	4	14,060	27	4
	14,748	17	4	14,575	23	4	14,395	22	4	14,216	22	4	14,033	18	4
	14,731	22	4	14,552	22	4	14,373	22	4	14,194	22	4	14,015	23	4
	14,709	23	3	14,530	23	3	14,351	21	3	14,172	23	3	13,992	22	3
	14,686		3	14,507		3	14,330		3	14,149		3	13,970		3
	Plug to Plug	78	30	Plug to Plug	74	30	Plug to Plug	78	30	Plug to Plug	77	30	Plug to Plug	78	30
Frac Plug		14,854	Total Shots	Frac Plug	14,669	Total Shots	Frac Plug	14,496	Total Shots	Frac Plug	14,314	Total Shots	Frac Plug	14,138	Total Shots

From Bottom to Top	Stage 21	Distance Between Perfs	Shots	Stage 22	Distance Between Perfs	Shots	Stage 23	Distance Between Perfs	Shots	Stage 24	Distance Between Perfs	Shots	Stage 25	Distance Between Perfs	Shots
	13,934	36	4	13,768	22	4	13,584	28	4	13,409	27	4	13,231	23	4
	13,925	22	4	13,746	22	4	13,567	23	4	13,394	29	4	13,209	13	4
	13,903	23	4	13,724	23	4	13,544	22	4	13,365	22	4	13,196	32	4
	13,880	22	4	13,701	22	4	13,522	22	4	13,343	22	4	13,164	17	4
	13,858	17	4	13,679	22	4	13,500	23	4	13,321	23	4	13,147	28	4
	13,841	28	4	13,657	20	4	13,477	22	4	13,298	22	4	13,119	24	4
	13,813	23	3	13,637	25	3	13,455	19	3	13,276	22	3	13,095	21	3
	13,790		3	13,612		3	13,436		3	13,254		3	13,074		3
	Plug to Plug	65	30	Plug to Plug	79	30	Plug to Plug	79	30	Plug to Plug	77	30	Plug to Plug	78	30
Frac Plug		13,945	Total Shots	Frac Plug	13,780	Total Shots	Frac Plug	13,601	Total Shots	Frac Plug	13,420	Total Shots	Frac Plug	13,242	Total Shots

From Bottom to Top	Stage 26	Distance Between Perfs	Shots	Stage 27	Distance Between Perfs	Shots	Stage 28	Distance Between Perfs	Shots	Stage 29	Distance Between Perfs	Shots	Stage 30	Distance Between Perfs	Shots
	13,037	37	4	12,867	28	4	12,684	33	4	12,504	33	4	12,334	26	4
	13,030	23	4	12,850	22	4	12,665	23	4	12,479	19	4	12,318	27	4
	13,007	22	4	12,828	22	4	12,642	20	4	12,460	23	4	12,291	27	4
	12,985	23	4	12,806	23	4	12,622	19	4	12,437	17	4	12,264	18	4
	12,962	20	4	12,783	22	4	12,603	21	4	12,420	17	4	12,246	28	4
	12,942	24	4	12,761	22	4	12,582	23	4	12,403	23	4	12,218	17	4
	12,918	23	3	12,739	22	3	12,559	22	3	12,380	20	3	12,201	22	3
	12,895		3	12,717		3	12,537		3	12,360		3	12,179		3
	Plug to Plug	63	30	Plug to Plug	72	30	Plug to Plug	79	30	Plug to Plug	78	30	Plug to Plug	81	30
Frac Plug		13,048	Total Shots	Frac Plug	12,878	Total Shots	Frac Plug	12,701	Total Shots	Frac Plug	12,515	Total Shots	Frac Plug	12,345	Total Shots

From Bottom to Top	Stage 31	Distance Between Perfs	Shots	Stage 32	Distance Between Perfs	Shots	Stage 33	Distance Between Perfs	Shots	Stage 34	Distance Between Perfs	Shots	Stage 35	Distance Between Perfs	Shots
	12,156	23	4	11,977	23	4	11,795	26	4	11,607	34	4	11,437	27	4
	12,134	22	4	11,955	22	4	11,774	21	4	11,597	23	4	11,411	16	4
	12,112	23	4	11,933	23	4	11,753	22	4	11,574	22	4	11,395	15	4
	12,089	22	4	11,910	22	4	11,731	22	4	11,552	23	4	11,380	30	4
	12,067	23	4	11,888	23	4	11,709	23	4	11,529	22	4	11,350	26	4
	12,044	22	4	11,865	20	4	11,686	22	4	11,507	22	4	11,324	18	4
	12,022	22	3	11,845	24	3	11,664	23	3	11,485	21	3	11,306	23	3
	12,000		3	11,821		3	11,641		3	11,464		3	11,283		3
	Plug to Plug	79	30	Plug to Plug	-11910	30	Plug to Plug	78	30	Plug to Plug	66	30	Plug to Plug	68	30
	Frac Plug	12,168	Total Shots	Frac Plug		Total Shots	Frac Plug	11,809	Total Shots	Frac Plug	11,618	Total Shots	Frac Plug	11,448	Total Shots

From Bottom to Top	Stage 36	Distance Between Perfs	Shots	Stage 37	Distance Between Perfs	Shots	Stage 38	Distance Between Perfs	Shots	Stage 39	Distance Between Perfs	Shots	Stage 40	Distance Between Perfs	Shots
	11,261	22	4	11,082	22	4	10,894	31	4	10,723	28	4	10,544	23	4
	11,236	20	4	11,059	22	4	10,880	16	4	10,696	24	4	10,522	22	4
	11,216	22	4	11,037	22	4	10,864	29	4	10,672	19	4	10,500	23	4
	11,194	23	4	11,015	23	4	10,835	25	4	10,653	19	4	10,477	22	4
	11,171	22	4	10,992	22	4	10,810	19	4	10,634	23	4	10,455	23	4
	11,149	23	4	10,970	23	4	10,791	23	4	10,611	22	4	10,432	21	4
	11,126	22	3	10,947	22	3	10,768	17	3	10,589	22	3	10,411	23	3
	11,104		3	10,925		3	10,751		3	10,567		3	10,388		3
	Plug to Plug	78	30	Plug to Plug	78	30	Plug to Plug	79	30	Plug to Plug	82	30	Plug to Plug	79	30
	Frac Plug	11,272	Total Shots	Frac Plug	11,093	Total Shots	Frac Plug	10,914	Total Shots	Frac Plug	10,735	Total Shots	Frac Plug	10,556	Total Shots

From Bottom to Top	Stage 41	Distance Between Perfs	Shots	Stage 42	Distance Between Perfs	Shots	Stage 43	Distance Between Perfs	Shots	Stage 44	Distance Between Perfs	Shots	Stage 45	Distance Between Perfs	Shots
	10,362	26	4	10,182	26	4	10,007	22	4	9,812	38	4	9,640	31	4
	10,342	22	4	10,166	25	4	9,985	23	4	9,805	22	4	9,624	20	4
	10,320	22	4	10,141	16	4	9,962	22	4	9,783	22	4	9,604	22	4
	10,298	22	4	10,125	28	4	9,940	18	4	9,761	23	4	9,582	23	4
	10,276	23	4	10,097	27	4	9,922	27	4	9,738	22	4	9,559	22	4
	10,253	22	4	10,070	18	4	9,895	16	4	9,716	22	4	9,537	23	4
	10,231	23	3	10,052	23	3	9,879	29	3	9,694	23	3	9,514	20	3
	10,208		3	10,029		3	9,850		3	9,671		3	9,494		3
	Plug to Plug	78	30	Plug to Plug	68	30	Plug to Plug	78	30	Plug to Plug	62	30	Plug to Plug	70	30
	Frac Plug	10,376	Total Shots	Frac Plug	10,193	Total Shots	Frac Plug	10,018	Total Shots	Frac Plug	9,823	Total Shots	Frac Plug	9,652	Total Shots

From Bottom to Top	Stage 46	Distance Between Perfs	Shots	Stage 47	Distance Between Perfs	Shots	Stage 48	Distance Between Perfs	Shots	Stage 49	Distance Between Perfs	Shots	Stage 50	Distance Between Perfs	Shots
	9469	25	4	9,290	23	4	9,107	27	4	8,918	37	4	8,749	27	4
	9446	21	4	9,268	22	4	9,086	22	4	8,909	25	4	8,736	28	4
	9425	23	4	9,246	23	4	9,064	20	4	8,884	19	4	8,708	25	4
	9402	22	4	9,223	20	4	9,044	25	4	8,865	22	4	8,683	19	4
	9380	22	4	9,203	24	4	9,019	20	4	8,843	22	4	8,664	23	4
	9358	23	4	9,179	19	4	8,999	24	4	8,821	23	4	8,641	22	4
	9335	22	3	9,160	26	3	8,975	20	3	8,798	22	3	8,619	23	3
	9313		3	9,134		3	8,955		3	8,776		3	8,596		3
	Plug to Plug	-9402	30	Plug to Plug	79	30	Plug to Plug	79	30	Plug to Plug	968	30	Plug to Plug	77	30
	Frac Plug		Total Shots	Frac Plug	9,302	Total Shots	Frac Plug	9,123	Total Shots	Frac Plug	8,933	Total Shots	Frac Plug	8,760	Total Shots

From Bottom to Top	Stage 51	Distance Between Perfs	Shots	Stage 52	Distance Between Perfs	Shots	Stage 53	Distance Between Perfs	Shots	Stage 54	Distance Between Perfs	Shots	Stage 55	Distance Between Perfs	Shots
	8,574	22	4	8,395	22	4	8,206	32	4	8,037	22	4		7880	
	8,552	23	4	8,372	20	4	8,185	19	4	8,014	17	4			
	8,529	22	4	8,352	24	4	8,166	17	4	7,997	28	4			
	8,507	23	4	8,328	26	4	8,149	23	4	7,969	22	4			
	8,484	22	4	8,302	19	4	8,126	22	4	7,947	22	4			
	8,462	22	4	8,283	22	4	8,104	23	4	7,925	23	4			
	8,440	23	3	8,261	23	3	8,081	22	3	7,902	22	3			
	8,417		3	8,238		3	8,059		3	7,880		3			
	Plug to Plug	78	30	Plug to Plug	78	30	Plug to Plug	72	30	Plug to Plug	-944	30	Plug to Plug	0	0
	Frac Plug	8,585	Total Shots	Frac Plug	8,406	Total Shots	Frac Plug	8,221	Total Shots	Frac Plug	7,025	Total Shots	Frac Plug		Total Shots